Weekly Report

梅鸿辉

May 13, 2018

1. 大黑书修订

修改计划

15.1 高性能计算

神威-太湖之光相关应用

新的并行调度算法（TOD-Tree）

生命科学

deep learning相关（目前只看到用可视化辅助理解神经网络的，需要找找用到可视化和deep learning解决生物信息学问题的）

其他科学与艺术

添加一些引用（e.g. visualization-by-sketch)

相关工具（如DDG）?

网络安全

更新一些引用

智能电网

BI

prescriptive

金融数据

看了一些survey，可以从data source、automatic techniques和visualization method讲

Papaer Reading

1.1 大黑书修订 - BI

[1] G. Devedžić, “Taxonomy of User Intention and Benefits of Visualization for Financial and Accounting Data Analysis,” Adv. Intell. Syst. Comput., vol. 231, no. mdmv, pp. 17–34, 2014.

[2] R. C. Basole and M. A. Bellamy, “Visual analysis of supply network risks: Insights from the electronics industry,” Decis. Support Syst., vol. 67, pp. 109–120, 2014.

[3] D. Larson and V. Chang, “A review and future direction of agile, business intelligence, analytics and data science,” Int. J. Inf. Manage., vol. 36, no. 5, pp. 700–710, 2016.

[4] D. Bačić and A. Fadlalla, “Business information visualization intellectual contributions: An integrative framework of visualization capabilities and dimensions of visual

intelligence,” Decis. Support Syst., vol. 89, pp. 77–86, 2016.

[5] B. Wixom and M. Goul, “The Current State of Business Intelligence in Academia : The Arrival of Big Data The Current State of Business Intelligence in Academia : The Arrival of Big Data,” vol. 34, no. January, pp. 1–13, 2014.

1.2 大黑书修订 - 金融数据

[1] S. Ko et al., “A Survey on Visual Analysis Approaches for Financial Data,” Comput. Graph. Forum, vol. 35, no. 3, pp. 599–617, 2016.

1.3 大黑书修订 - Illustrative

[1] A. Semmo and J. Döllner, “Interactive image filtering for level-of-abstraction texturing of virtual 3D scenes,” Comput. Graph., vol. 52, pp. 181–198, 2015.

[2] M. Le Muzic, M. Waldner, J. Parulek, and I. Viola, “Illustrative Timelapse: A technique for illustrative visualization of particle-based simulations,” IEEE Pacific Vis. Symp., vol. 2015–July, pp. 247–254, 2015.

[3] H. Miao et al., “Multiscale Visualization and Scale-Adaptive Modification of DNA Nanostructures,” IEEE Trans. Vis. Comput. Graph., vol. 24, no. 1, pp. 1014–1024, 2018.

[4] M. H. Everts, E. Begue, H. Bekker, J. B. T. M. Roerdink, and T. Isenberg, “Exploration of the brain’s white matter structure through visual abstraction and multi-scale local fiber tract contraction,” IEEE Trans. Vis. Comput. Graph., vol. 21, no. 7, pp. 808–821, 2015.

[5] K. Lawonn and B. Preim, Feature lines for illustrating medical surface models: Mathematical background and survey. 2016.

[6] D. Schroeder and D. F. Keefe, “Visualization-by-Sketching: An Artist’s Interface for Creating Multivariate Time-Varying Data Visualizations,” IEEE Trans. Vis. Comput. Graph., vol. 22, no. 1, pp. 877–885, 2016.

1.4 大黑书修订 - 大规模数据

[1] M. Mattoso et al., “Dynamic steering of HPC scientific workflows: A survey,” Futur. Gener. Comput. Syst., vol. 46, pp. 100–113, 2015.

[2] H. Yu, C. Wang, R. W. Grout, J. H. Chen, and K. L. Ma, “In situ visualization for large-scale combustion simulations,” IEEE Comput. Graph. Appl., vol. 30, no. 3, pp. 45–57, 2010.

[3] S. Grottel, M. Krone, C. Müller, G. Reina, and T. Ertl, “MegaMol - A prototyping framework for particle-based visualization,” IEEE Trans. Vis. Comput. Graph., vol. 21, no. 2, pp. 201–214, 2015.

[4] L. Y. M. Gicquel, G. Staffelbach, and T. Poinsot, “Large Eddy Simulations of gaseous flames in gas turbine combustion chambers,” Prog. Energy Combust. Sci., vol. 38, no. 6, pp. 782–817, 2012.

[5] J. H. Chen, “Petascale direct numerical simulation of turbulent combustion - Fundamental insights towards predictive models,” Proc. Combust. Inst., vol. 33, no. 1, pp. 99–123, 2011.

[6] H. Childs et al., “VisIt: An end-user tool for visualizing and analyzing very large data,” High Perform. Vis. Extrem. Sci. Insight, pp. 357–372, 2012.

[7] J. C. Bennett et al., “Combining in-situ and in-transit processing to enable extreme-scale scientific analysis,” Int. Conf. High Perform. Comput. Networking, Storage Anal. SC, 2012.

[8] B. Whitlock, J. Favre M, and J. Meredith S, “Parallel in situ coupling of simulation with a fully featured visualization system,” Eurographics Symp. Parallel Graph. Vis., pp. 101–109, 2011.

[9] A. Krizhevsky, I. Sutskever, and G. E. Hinton, “ImageNet Classification with Deep Convolutional Neural Networks,” Adv. Neural Inf. Process. Syst., pp. 1–9, 2012.

1.5 大黑书修订 - 网络安全

[1] I. Butun, S. D. Morgera, and R. Sankar, “A Survey of Intrusion Detection Systems in Wireless Sensor Networks,” IEEE Sens. J., vol. 14, no. 5, pp. 1370–1379, 2014.

[2] V. T. Guimaraes, C. M. Dal Sasso Freitas, R. Sadre, L. M. Tarouco, and L. Z. Granville, “A Survey on Information Visualization for Network and Service Management,” Commun. Surv. Tutorials, IEEE, vol. PP, no. 99, p. 1, 2015.

[3] S. Tan, D. De, W.-Z. Song, J. Yang, and S. K. Das, “Survey of Security Advances in Smart Grid: A Data Driven Approach,” IEEE Commun. Surv. Tutorials, vol. 19, no. 1, pp. 397–422, 2017.

计划-已完成

TASK	DESCRIPTION	NOTE
Sci审稿		

计划-已完成

TASK	DESCRIPTION	SCHEDULE
大黑书修订	阅读相关文献/添加近期新研究成果	下周完成初稿
VisEvo	考虑投SigCHI；按照丁师兄提供的思路，准备找实际做UED等工作的人了解一下用户需求	下周
专利（两篇）	初稿基本完成	下周开始与律师沟通
RSATree代码重构	后端C++化	本月完成

计划-中期

TASK	DESCRIPTION	SCHEDULE
RSATree后续 - Visual Query	RSATree中关于Visual Query（界面）部分的继续工作，包括查询流程、交互等，考虑投SigCHI	本月完成构思
分辨率自适应可视化	思考可行的方向，考虑是否投SigCHI	本月敲定目标

计划-长期

TASK	DESCRIPTION	SCHEDULE
毕业论文	目前定位为可是设计方向	开始考虑一下整体构思

Works Progresses

TASK	PROGRESS	TODO	ISSUES	DATE
RSATree	等待VIS结果	整理代码		
RSATree专利		完成初稿		下周
大黑书修订				
VisEvo		idea evaluation		
电子学报	已进入最后阶段			
ECharts论文	等待最终发布			
分辨率自适应可视化		学习/咨询相关理论基础		